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March 30, 1998

VIA FED EX 916-445-4000

Mr. Bob Elliott
Department of Pesticide Regulation
1020 N Street, Room 161
Sacramento, CA 95814-5624

Re: DPR Contract #95-0245 - Biological Prune Systems (BPS) Project

Dear Bob:

Enclosed is the final report for year two of the BPS agreement. I submitted the final original invoice under separate cover (regular mail) to Cindy Placencia as we have done in the past.

The Nature Conservancy greatly appreciates DPR's support of the BPS project and looks forward to carrying out the third year of the project. Thank you for all your assistance.

Very truly yours,

A handwritten signature in cursive script, appearing to read "Meghan Mazzoni".

Meghan Mazzoni
Government Grants and Contracts Administrator



Principal Investigators: John Carlon, Sacramento River Project
The Nature Conservancy
Project Role: Project Director

Fred Thomas, Pest Control Advisor
CERUS Consulting
Project Role: Project Coordinator

Project Title: Biological Prune Systems (BPS) for the Upper Sacramento Valley

Date: March 31, 1998

Summary:

The BPS project has been a catalyst in encouraging prune farmers and the prune industry to reduce pesticide applications. During the second year of the project the experience of the project farmers and the Advisory Team was shared with other prune growers at BPS and industry meetings.

The second year the project growers reduced the dormant application of Organophosphates (OP) pesticides on 90 percent of the 200 acres of BPS orchards. The project growers farm 6,000 acres of mixed orchard crops including almonds, peaches, prunes, and walnuts. Many of them replaced the broad spectrum sprays, Diazinon, Lorsban, and Supracide, on some of this additional acreage with synthetic pyrethroids, oil, *Bacillus thuringiensis* (*Bt*), pheromone disruption systems or the decision to apply nothing based upon careful pest monitoring.

The interest and collaboration by many industry partners grew to include presentations at Sunsweet Grower meetings, inclusion in Prune Bargaining Association meetings, the Glenn County Surface Water Stewardship steering committee, Orland Fertilizer Grower Meetings, U.C. ESPS program, and presentations on the project at CSU, Chico, Butte College, and the Yuba Sutter RCD. Most significantly is the support and assistance of the California Prune Board in cost sharing the Field Meetings and the Prunegram, developing a logo, and putting articles in their newsletter.

Results and Discussion:

Following is the progress of the objectives that The Nature Conservancy undertook to achieve with the Department of Pesticide Regulation Pest Management Grant in 1997 - 1998.

Pesticide Reduction

BPS growers reduced all dormant organophosphates by 90% on the project acres the second year. The growers plan to eliminate all insecticides on the 200 acres and transition to oil, *Bacillus thuringiensis*, or pheromone disruption. The ranch that did apply Diazinon was a family operation where there was still uncertainty about new methods.

Reduction of Synthetic Nitrogen by 30%

This part of the DPR grant has not been realized from its original intention of using cover crops and compost to replace synthetic nitrogen and improve soil biology. There were two reasons for the difficulty in implementing this part of the grant. The first reason is that during our recruitment and initial farm visits, more than half of the growers of the project expressed the desire for cover crop systems that improved water infiltration as one of their primary concerns. Additionally they desired orchard floor management systems that allowed them better winter access for pruning, brush removal, fungicide applications, and harvesting. To meet these goals a grass based sod was requested that would actually require additional nitrogen for the first couple of years.

The second reason that also plays into all of the recommended cultural decisions to the project farmers is the return on prunes has dropped by 30 % in three years. A severe narrowing of the cash flow needed to raise prunes during the implementation of the BPS project has caused many growers to challenge the practices of cover crops and compost as not being 'economically viable' at the current time. Below is a discussion of all of the practices adopted by the growers.

Adoption of BPS Recommendations for an Ecologically Based Production Management (EBPM) System

The following practices have been implemented by the following number of growers in the first two years of the program:

Replace Diazinon	11 of 12
Reduce Nitrogen	3 of 12
Establish a Legume Cover Crop	3 of 12
Establish a Grass Cover Crop	3 of 12
Use Oil or Bt for Pest Control	5 of 12
Establish Insectary Shrubs	4 of 12

Organize an Advisory Team

The BPS Advisory Team is a dynamic group that grew and evolved during the second year of the project. This year we added a filter strip/buffer strip specialist, a U.C. Liaison and prune processing representatives.

The current BPS Advisory Team is:

Project Directors	John Carlon, The Nature Conservancy Dawit Zeleke, The Nature Conservancy
Project Coordinator	Fred Thomas, CERUS Consulting
Local Farmers	David Evers, Farmland Management Services Dick Jacobs, CSU, Chico Farm Operations
Pest Control Advisor	Cliff Kitayama, Scientific Methods, Inc.
UCCE Liaison	Carolyn Pickel, Area IPM Specialist
Research/Filter Strips	Lee Altier, Ph.D., CSU, Chico Agriculture
Agrichemical Representative	Carl Bruce, John Taylor Fertilizer Co.
NRCS Liaison	Larry Branham, Tehama County
Prune Processing	Mark Gilles, Sunsweet Growers Bob Safford, Sunsweet Growers

Project Growers

<u>County</u>	<u>Farm</u>	<u>Location</u>	<u>Acres in BPS</u>
Tehama	Shasta View Farms	Gerber	25
Tehama	Farmland Management	Corning	20
Tehama	Abbey Ranch	Vina	15
Glenn	Billiou Farms	Hamilton City	20
Glenn	CSU, Chico	Hamilton City	10
Glenn	Sol Norte	Butte City	20
Butte	Philip Stanfield	Biggs	20
Butte	Onstott Orchards	Gridley	15
Yuba	Kalkat Bros.	Marysville	15
Yuba	Curt Sanders	Marysville	12
Sutter	John Heier	Live Oak	10
Sutter	Thiara Ranches	Live Oak	20

BPS Field Day Meetings - October to September

The more intense meeting schedule has been very beneficial to the expansion and acceptance of the value of the BPS project by other prune growers and the prune industry. The following meetings were held since harvest ended.

<u>Date</u>	<u>Topic</u>	<u>Location</u>
Sept. 25	Cover Crop Planting and Equip. Demo	Vina
Nov. 13	Prune Farming: Surviving into the 21 st Century	Yuba City
Dec. 11	Pruning, Chipping, and Air Quality	CSU, Chico
Jan. 8	Irrigation Efficiency Workshop	Yuba City

Feb. 5 Wildlife Habitat and Soil Biology
Mar. 5 Nitrogen Efficiency Workshop

Colusa Farm Show
Yuba City

The Pest Control Advisor (PCA) Community

The BPS Prunegram is sent to every major and many local agrichemical supply companies in the north valley and there have been many favorable comments as well as questions by the Pest Control Advisors. Five independent PCAs are associated with five of the project growers, and the other project growers use John Taylor Fertilizer, Helena Chemical, and Wilbur Ellis.

The BPS project was invited to present the program at an Orland Fertilizer Grower Meeting for prunes and almonds and was well received by the growers and the PCAs. With the changes that are coming with the Food Quality Protection Act and Clean Water provisions, the general attitude of the PCAs is that they need to learn the new pest protection methods and that there will eventually be changes in providing their clients with consulting, monitoring, nutrients, pheromones, beneficial insects, and selected soft pesticides.

U. C. Environmentally Sound Prune Systems (ESPS)

After helping the BPS project get started the U.C. Farm Advisors requested a grant from CPB to start their own statewide ESPS program. The program uses replicated sites in each county of sprayed and non sprayed blocks, demonstration sites of selected practices, i.e., mite releases, cover crops, mow and throw herbicide reduction methods, sizing and quality issues. This program is very well received by the growers who help on the U. C. ESPS Steering Committee with project suggestions.

Through discussions facilitated by CPB with BPS and UC, Carolyn Pickel, UC IPM Specialist volunteered to be the UC liaison to BPS, assisting with meeting scheduling, an interview, and presentations. Fred Thomas was selected to be represented on the UC ESPS Steering Committee to help with bridging the practices of BPS growers and introducing information regarding hedgerows, wildlife, filter strips, and cover crops.

Farm Plans

The Advisory Team again visited each BPS site in the Fall just after prune harvest. From the visit, with the grower and their PCA many apparent obstacles were solved by either the team, the PCA, or the farmers themselves. The suggestions and results of these site visits were then incorporated into a site specific Farm Plan.

Newsletter - The BPS Prunegram

The BPS Prunegram is sent to the prune industry. There are approximately 400 copies of each edition sent to prune growers, other orchard growers, prune processors, pest control advisors and companies, and U.C. Cooperative Extension.

Environmental Protection Agency (EPA) 319 Funding

Beginning in mid year EPA funding as part of the Phelan Island Sustainable Farming program to 'replace farm chemicals with functional farm biology' was granted. The contract administrator is Dennis Heiman, Central Regional Water Quality Control Board. This allowed for additional grower and Advisory Team support and more exposure of the project through meetings and agribusiness interactions. The grant started the selected baseline documentation of the effects of the new practices by the BPS growers on soil, insects, and vertebrates.

Monitoring

The following baseline monitoring and documentation has or is being conducted on the BPS sites with the EPA 319 funding.

- Diazinon Use
- Nitrogen Use
- Nematode Populations
- Soil Biology Populations
- Bird Populations
- Rodent Populations
- Photo Monitoring
- Economic Comparisons

BPS Project Grower Direction

In the attachments is a survey from the March 3, 1998 Grower/PCA meeting on what they would like from the BPS project. Most importantly they would like tangible monitoring and rapid response of that information on their BPS block so they can be comfortable with their decisions to reduce or eliminate pesticides. They would also like more advertising of meetings, interaction with other groups, cost sharing from industry and the government.

Future Plans; 3rd & 4th Years

The BPS project will use the final year of the DPR IPM Innovator Grant to expand the project by encouraging the practices and concepts of BPS to the prune industry, associated agribusiness, U.C., agencies, and educational institutions. The program will also expand by responding to the requests of the growers in the program to give them more information, monitoring, and cost share coordination. We will continue to provide information to other non project growers through the Field Meetings, Workshops, the media, and the BPS Prunegram.

Collaborative Associations:

California Prune Board

We have had excellent support from the California Prune Board. Rich Peterson, Executive Director, and Gary Obenauf, Research Director, have been very helpful from the start of the program. The Prune Board helps pay for the newsletter, postage, and refreshments at our grower meetings. Additionally, they have published articles in their newsletter, and created a logo for the

program. We are currently discussing with Gary Obenauf and Bill Barnett, IPM Farm Advisor Emeritus, how best for CPB to assume directorship of the BPS project.

Natural Resources Conservation Service

The NRCS has spoken at our meetings, sponsored our workshops, and included information on our partnership in their EQIP request for funding. Roney Gutierrez, (Colusa), Ernie Paschke and Surjit Toor (Yuba Sutter), Dennis Nay (Glenn and Butte), and Larry Branham, (Tehama), are our main contacts.

Sunsweet Growers, Inc.

Half of the BPS growers are members of the Sunsweet Prune Cooperative, and they mutually support the IPM practices of the BPS Project. The BPS project made presentations at the Sunsweet April and October Grower meetings. Sunsweet writes articles for their grower magazine on our field days and advertises the schedule of the upcoming meetings. Both Mark Gilles and Bob Safford, grower relations and dehydrator managers, have joined the Advisory Team as representatives for prune processors.

Prune Bargaining Association (PBA)

Because the BPS project has as a goal to make prune farmers more efficient and family farms sustainable, Greg Thompson, General Manager of PBA invited us to participate in their industry round table. We have also written articles on how to keep prune farmers in business during the tough economic times they face with potential cost share practices.

John Taylor Fertilizer Co.

As an agrichemical supply company, John Taylor Fertilizer has been very helpful in formulating as well as questioning the BPS program. John Heier, John Taylor Agronomist in new product development, is also a prune grower and BPS project grower. He spoke on the growers point of view at our Prune seminar and is hosting our April 23rd Field Meeting on Aphids. Additionally Carl Bruce, also a John Taylor agronomist and tree nutritionist, gladly joined our Advisory Team last year to ensure that our project reflected the interest of the agribusiness supply companies. The company has had the foresight to offer their clients good consulting advice and IPM technology for the future.

California State University, Chico

From the beginning of the project, Dick Jacobs has been involved in helping to guide the BPS program. Despite his duties as operations manager at the CSU, Chico Farm, Dick has attended most every field day and grower visit and offered his practical advice and experience on farming prunes. This past year the Advisory Team also added Dr. Lee Altier, a professor in the College of Agriculture, and a noted specialist in the protection of surface water through the use of filter and buffer strips between farm land and water ways. We have additionally employed Kim Cipriani, a CSU, Chico graduate, pursuing a

career as a PCA to plant cover crop plots, do photo monitoring, soil biota and nematode sampling, and meeting administration.

Butte College

The entomology instructor, Herb Jacobson, has invited the BPS project to present information on local sustainable farming projects. He is also interested in starting a monitoring school to train local students as field scouts to assist farmers, agrichemical companies, and commodity organizations so that farmers can make more informed decisions about pesticide use.

Yuba/Sutter Resource Conservation District

At the invitation of Rosemary Pierce, Secretary, a presentation was made to the Yuba/Sutter RCD in September. The President of the RCD, Carol Churkin is a local prune grower and there has been continued interest in the BPS project in combination with Ernie Pachke and Surjit Toor of the NRCS. This cooperation has resulted in a much greater outreach to the Yuba Sutter prune growers than was originally anticipated when the program started.

Glenn County Surface Water

As part of the Department of Pesticide Regulations Dormant Spray Stewardship Program, Glenn County Agricultural Commissioner, Ed Romano formed a local watershed group. The BPS project is part of the steering committee of the group and will help with the adoption of a dormant spray stewardship program including using the BPS orchards as demonstration sites.

Conclusion:

The Nature Conservancy is very pleased with the support from the Department of Pesticide Regulation in the development of the BPS project. Within the past two years the BPS project has used the IPM Innovator Grant Award to implement pesticide reduction through a collaboration with the prune industry, agribusiness, and the local community.

Attachments:

Field Day Flyers and Sign In Sheets
Minutes of Advisory Team Meeting, 1/30/98
Minutes of Grower/PCA Meeting 3/3/98
Prunegram
Soil Biota Monitoring
Press Copies

Biological
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Irrigation Efficiency

*Sponsored by the Biological Prune Systems Project
California Department of Pesticide Regulation
The California Prune Board
Circle R Pump & Irrigation
Bi-County Irrigation Inc.*

January 8, 1998

**The Bonanza Inn
1001 Clark Avenue
Yuba City**

8:30 to 9:00 Registration, Coffee, Juice and Danish

9:00 to 11:00 Meeting

Introduction

Fred Thomas, BPS Coordinator

Cost Comparisons of Converting Irrigation Systems

Larry Schwankl, University of California, Irrigation Specialist

Improving Irrigation Efficiency in Prunes

Sunny Kalkat, Circle R. Pump & Irrigation

What Makes a System Efficient

Curt Sanders, Bi-County Irrigation Inc.

Panel Questions & Answers

Larry Schwankl
Sunny Kalkat
Curt Sanders

2.0 Hours CCA Credits

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Wildlife and Soil Biology Workshop

*Sponsored by the Biological Prune Systems Project,
The California Prune Board,
Department of Pesticide Regulation,
Natural Resources Conservation Service, and
The Nature Conservancy*

February 5, 1998

**Colusa Farm and Equipment Show
Stagehands Theater**

8:30 - 9:00 Registration and Coffee

9:00 - 10:00 Soil Biology

Biological Prune Systems Soil Biology Baselines
Fred Thomas, CERUS Consulting

Field Applications of Mycorrhiza
Vic Claassen, Soils and Revegetation Specialist, U.C. Davis

10:00 - 10:10 Break

10:10 - 12:00 Wildlife Habitat

Using Barn Owls for Rodent Control
Bruce Norton, Sunsweet Growers, Inc.

Bringing Birds To Your Ranch
Anne King, Staff Biologist, Point Reyes Bird Observatory

Improving and Using Wildlife on Your Farm
Chuck Harrison, Western Wildlife Services

Bring Farm Edges Back to Life
John Anderson, Hedgerow Farms

**1 Hour PCA Credits
3 Hours CCA Credits**

Biological
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Nitrogen Efficiency Workshop

*Sponsored by the Biological Prune Systems Project
California Department of Pesticide Regulation
The California Prune Board*

March 12, 1998
Thursday

The Bonanza Inn
1001 Clark Avenue
Yuba City

8:30 to 9:00 Registration, Coffee, Juice and Danish

9:00 to 11:00 Meeting

Introduction

'The Fruits of Their Labor'

FREP, Nitrogen Management in Stone Fruit

Soil Fertility, Nitrogen, and the Food Web

Fred Thomas, CERUS Consulting

Fertilizer Efficiency in Prune Systems

Carl Spiva, Consulting Agronomist

Nitrogen Budgeting For Your Orchard

Worksheet Exercise for your ranch

**1.0 Hours PCA Credits
2.0 Hours CCA Credits**

PARTICIPANT SIGN-IN

Event: Wildlife Workshop

Date: Feb. 5, 1998

Location: Colusa Farm Show

Name	Mailing Address (including zip)	Phone	Occupation
Larry Williams	18720 Jami Lee Ln. Sonoma, CA 95476	707 996 9341	Ground maintenance
Fred Thomas	P.O. Box 479 Redvale		Cassidat
Rickard Jank	311 Nicholas Schwaner Lane 94970	345-2807	Farmer
Anne King	4990 Shoreline Hwy, Stinson Beach, CA 94960	(415) 818-0655	Biologist
JENNIFER ANDERSON	21740 CO. RD 28, WINTERES, CA 95694	530 202 4570	FARMER
Gilbert Ramer	6766 Harrington Arbuckle, CA 95912		Farmer
Jeanette Wrynsinski	221 W. Court St. Woodland, CA 95695		Yolo PCD
Mary Kimball	1408 Cottonwood St. Woodland, CA 95695		Yolo PCD
Mark Dalnymple	425 Alacado Rd Gridley, CA 95948		Dried fruit
CHARI NICIE Tighe	P.O. Box 70 Moss Landing, CA 95039		Restoration
David Tucker	Corning Union High School - w/ 8 students		
	693 Blackburn Ave, Corning, CA 96021		HS Science Teacher
Raquel & Greg Massa	P.O. Box 304 Princeton, CA 95970		Farmer
John Knette	P.O. Box 363 Davis, CA 95617	(530) 755-8518	Bios Project Coordinator
Joe Sebastani	25200 Arnold Drive Sonoma, CA 95476	707-935-470	
Bruce Norton	Sunsweet Madras		
Paul Robbins	221 W. Court St. #1 Woodland, CA 95695		Yolo PCD
Tom Kaye	10343 Butte View Rd Chico, CA	530-342-0412	
Chuck Harrison	Milville, CA		
John Anderson	Winters, CA		

Biological
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Systems

PARTICIPANT SIGN-IN

Event: NITROGEN EFFICIENCY Workshop

Date: MAR 12 '98

Location: BEST WESTERN, Yuba City

Name	Mailing Address (including zip)	Phone	Occupation
Joseph Paterno		6712477	Live off Calif
Herb Jacobson		343-2978	Instructor
GEORGE GERST		747-1043	
AL CARLIN		419	Calif ST Guidley
MW CARLIN		1098	Losser Ave Guidley
Merritt Eucker		3916	CC Rd. MM Coland
Royce A. Naver	11163 Township Rd. L.D. 95953	695-2320	
Dow A. Stanfield	3293 Tappan Ln. Wheatland 95692	530-635-2707	
Carl P. Spiva	1101 STRATFORD LN MODESTO 95350	209-529-5560	
Mona Stanfield	833 Water Rd Biggs 95917	530- 868 -9022	
Emmet Perkins	6020 Larkin L. W. DAK CA 6953631		
JONATHAN F. LAVY	PO Box 536 Biggs CA 95973		
BOB SAFFORD	P.O. Box 201 CORNING 96021	824-5376	
Richard Fraroshi	P.O. Box 5, Rio Oso 95674		
TERRY DEVING	PO Box 960 Hamilton CA 95951		
SURBIT TOLAR	NECS YUBA CITY	7	

Biological
Prune
Systems

PARTICIPANT SIGN-IN

Event: NITROGEN Efficiency Workshop

Date: MAR 12, '98

Location: BEST WESTERN, Yuba City

Name

Mailing Address (including zip)

Phone

Occupation

Aeve Rasmussen	901 N. Walton Ave. Y.C. 95993	251-5207	Sunscreen
JERRY W CARDOSO	3105 S. EERA USTA DR., YUBA CITY, CA 95993	673-8170	FARMER/FCA
Ernie Dalton	13687 Garner Ln. Chico CA 95973	891-5349	Sales manager
TODD B. HERMAN	690 Gregory way Yuba City CA 95993	673-2208	SLRCID
Warren Riley	6991 Pennington Rd L.O. Ca. 95953	695-7732	Grower
JOHN J. BOLLEN	1205 S. Aubrey Ave Chico, CA 95928	345-3810	GROWER
AZAM KHAN	262 Nielson Ave Gridley, CA 95948	846-4378	Grover
JOHN CARLSON	261 E 3rd ST CHICO CA 95928	342-0896	TNC

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BPS Advisory Team Agenda

CSU, Chico Crops 2 Bldg.
Friday, January, 30, 1998
8:30 a.m. - 10:30 a.m.

8:30 Coffee & Donuts

1. Updates
2. Monitoring
3. Prune Board
4. U.C. - ESPS
5. Field Days

Mar. 11 Nitrogen and Fertilizer Efficiency
Apr. 26 BPS Field Day
May ?

Yuba City, Bonanza

6. New BPS Growers

7. Grower Survey/Letter

8. BPS Project Grower Support

- Farm Visits
- Monitoring
- Cost/Share
- Donations

9. Other

Adjourn - 10:30 a.m.

BPS Advisory Team Minutes
January 30, 1998
CSU, Chico, University Farm
8:30-10:30 in Crops 2 Bldg.

Attendees:

Dick Jacobs	Bob Safford
David Evers	Kim Cipriani
John Carlon	Fred Thomas

1. Updates. Growers; Richard Attinger will no longer be managing Sol Norte.

2. Monitoring. The following baseline documentation and monitoring has been completed:

Pesticide use	12/12
Synthetic nitrogen use	10/10
Soil microbiology	17/17
Nematode populations	15/17
Bird populations (PRBO),	Done at Shasta View
Rodent populations	Not Done
Photo monitoring	Oct. and Jan. 12/12
Economic comparison	2 yrs. Down the road

3. California Prune Board. John said the TNC has been involved because no one has stepped in. If the Prune Board steps in and takes charge, TNC will step down. This Prune Board involvement will give farmers confidence in the BPS program. John, Fred, and Cliff met with Gary Obenauf and Bill Barnett to discuss the transition of the program. There was some concern that the BPS program would be absorbed by the UC ESPS program and it was requested that this be clarified with Gary O.

4. UC ESPS. Fred attended the UC ESPS steering committee in Stockton in Dec. The group was composed of mainly the UC personnel and Greg Thompson of PBA. The bulk of the discussion was on how to ensure a replication by site so that each county could participate in the program. It was suggested that the participating farmers are a part of the steering committee should be brought after basic details have be worked out. It was also suggested to include an agrichemical representative and an NRCS representative to form a collaborative effort.

5. Field Days. March 11; Nitrogen and Fertilizer Efficiency in Yuba City. Suggestions were made to discuss organic sources of nitrogen. Fred passed out information from several previous workshops that he attended. The focus would be on efficiency. Possible speakers included; Steve Weinbaum,

Cindy Lashbrook, Carl Spiva, a grower panel. The issue of nitrates in the water should be addressed. Additionally the effect that nitrogen has on prune sugar levels and potassium should be addressed.

April 25, BPS Field Day; it was decided to have a normal spring field day for growers and move the Agency Day to May when it could be better advertised. Several ideas for the field day in April were an aphid tour at John Heier or another cover crop field meeting at Onstott orchards. It was agreed to let Fred decide and follow through with the April meeting.

May 12, 13, 14 ? Agency Day. This meeting was suggested as being a two bus tour of the Tehama County BPS sites. It is for the funders and others interested in the project. John felt that it should be open to all and not by invite only. There would probably be a 80 to 100 person limit. The day would involve presentations by the ranchers and would be Shasta View, Farmland Management, and Abbey Ranch with a sandwich lunch and speakers at Woodson Bridge Park.

People to invite would include State Quality Water Control, EPA, DPR, TNC, Farm Bureau, local government.

6. New BPS Growers. There were again several suggestions of interested growers including Paiva, Willard, Dessert, Erick Nielsen, Pacific Farms. All of these have been contacted but none have agreed. Other potential growers from the initial recruitment that have shown interest are John Bolen, Richard Conte, John Lavy, and Giovanetti. The suggestion was made to solicit growers who are active in the Prune Board.

7. Growers Survey Letter. It was suggested to send the growers a survey letter to get their input, but that idea evolved into having an actual Grower Meeting, set for March 3 to get their input. Some of the topics suggested were:

- Make this a required meeting.

- What do they want from the program?

- More or less farm visits?

- Should we stay with rodent and bird monitoring or something more practical like, mites, aphids, scale, PTB, etc?

- Should we facilitate more cost share with NRCS?

- Can we get donations like other projects?

- Should we offer parasitic wasps or owl boxes to the participants?

Advisory Team Mtg to
Jann 30, 1998

Fred Thomas
Kurt Cypranski
Bob Safford
JOHN ARLOW
David Green
Dick Jarosh

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BPS Grower and PCA Meeting
Tuesday, March 3
9:00 to 11:00 AM
CSU, Chico Farm, Crops 2 Building

8:30 Coffee & Donuts

9:05 Welcome, Introductions, Agenda Review

9:15 Year Three of BPS

BPS Program To Date

Grower Support - Visits, Farm Plan, Cost Share
Written Info - Newsletter
Meetings & Field Days
Monitoring - Review

California Prune Board Administration of BPS

9:45 **Brainstorm: What aspects of BPS should be continued or changed?**
These can be activities, services, or new ideas.

Prioritize ideas generated above.

10:30 Identify Next Steps

10:45 Questions and Discussion

11:00 Adjourn

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BPS Grower and PCA Minutes
Tuesday, March 3, 1998
CSU, Chico, University Farm
9:00-11:00 in Crops 2 Bldg.

The following are the comments of the Growers, PCAs, and Advisory Team Members when asked what they would like to see more of for the next two years of the BPS project.

Cost Share

To include possible product manufacturer participation.
To increase participation via more publicity
Increases partnership(s) with industry and grower support.
Define to growers "System" Approach

Meetings & Field Days

I think we have enough meetings and field days, but need to publicize these field days more.

Helpful Hints for Future Field Days:

Publicity: Use other organizations (i.e. Sunsweet growers)
Follow up articles
Industry Sponsored Lunch (i.e. Helena/Sunsweet)
Are more helpful than meetings and written info.
Exchange of information between growers is very helpful.
Realistic Information on pesticide use trends is helpful.

Monitoring Changes:

Mites and pyrethroids?
Monitor Beneficial Insects and their life cycle (where they overwinter etc.)
Water Infiltration.
Monitoring insect such as SJS, aphids for growers
Baseline Monitoring to include all pests we are generally faced with plus any new ones that might arise over time.
Aphids/Scale etc.
Routine monitoring as required
More Work on aphid control show statistics on successful fields using no organic phosphates to combat aphids.

Monitoring Needs:

Full support as required for all pests including Aphid and Scale and any new ones that arise (on a regularly scheduled basis).

Monitoring is very helpful, but not too conclusive so far.

Train people to monitor.

Have a Regular Monitoring person.

On insects/pests. Real problems

Have a field scout in the field to help growers with decisions.

Written Info. Newsletter Other

Resource list:

Suppliers	Tech support
Phone #	Cost Share

Short Topics:

Successes/Failures

Hot Topics

Grower Successes/Failures

Hints

Grower Support

Visits, Farm Plans, Cost Share

Cost share as much as possible including the paper process etc.
with government agencies

Suppliers

Make the process as painless as possible.

Cost Share for farmers for IPM & Cover Crops.

Try to get more grower participation, more growers into the
program and in doing so give more cost share.

Several visits a year would be helpful.

More information on shrubs and habitat.

Parasitic Wasps, release them in BPS orchards.

Copy to: Growers
PCAs
Advisory Team
CPB

From: Fred Thomas, BPS Coordinator

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PARTICIPANT SIGN-IN

Event:

GROWER/PT MEETING

Date:

3/3/98

Location:

Chico

CSU #

Name	Mailing Address (including zip)	Phone	Occupation
Andi SEXTON	P O BOX 305 Arroyo CA 95913	934-5713	CONSULTANT
Jick Jacobs	311 Nicholas C. Schouten Lane	897-5030	AG EDUCATION
BOB SAFFORD	P.O. Box 201 CORNING, 96021	824-5376	SUNSWEEP FIELD REP.
Kelley	P O Box 679 Red Bluff	897-6000	Gen. Mgr.
J. R. Thiola	2017 E. Pennington Rd, L.O.	695-9129	GROWER
Barney Flynn	PO Box 960 GERBER (A96035)	(530) 385-1126	GROWER
Lee Altier	SHASTA VIEW FARMS College of Ag, CSU	898-4137	Instructor

Soil Biota/Nematode Soil Conditions and Management **BPS-17 Samples**

	<u>Soil pH</u>	<u>Soil Type</u>	<u>Tillage/ Mow</u>	<u>Years Notill</u>	<u>Irrigation</u>	<u>Pesticide 1996</u>	<u>Pesticide 1997</u>	<u>Fungicide 1996, 97</u>	<u>Flooded 1996, 97</u>	<u>Cover Crop</u>
Shasta View 1	6.5	Silt Loam	Mow	1	Flood	Diazinon	None	Yes	Yes	Yes
2	6.5	Silt Loam	Mow	1	Flood	Diazinon	Diazinon	Yes	Yes	No
3	6.5	Silt Loam	Mow	1	Flood	Diazinon	None	Yes	Yes	Yes
4	6.5	Silt Loam	Mow	1	Flood	Diazinon	Diazinon	Yes	Yes	No
Farmland Mgmt.	5.5	Gravelly Loa	Mow	15	Drip	Supracide	Supracide	Yes	No	Yes
Vina Monestary	7.1	Loam	Disk	0	Flood	None	None	No	No	Yes
Billiou Ranches	7.9	Silt Loam	Mow	15	Flood	Asana	None	Yes	No	Yes
CSU, Stony Cree	6.5	Silt Loam	Mow	15	Sprinkler	None	None	Yes	Yes	Yes
Sol Norte	6.5	Silt Loam	Disk	0	Flood	None	None	Yes	Yes	No
Stanfield	6.1	Clay Loam	Mow	3	Micro	None	None	No	No	No
Onstott, BPS	6.1	Clay Loam	Mow	5	Flood	Diazinon	None	Yes	No	Yes
Onstott, Non-BP	6.1	Clay Loam	Mow	5	Flood	Diazinon	Diazinon	Yes	No	No
Kalkat	6.1	Sandy Loam	Disk	0	Flood	Diazinon	Diazinon	Yes	No	No
Sanders	5.8	Clay Loam	Mow	10	Drip	Diazinon	Diazinon	Yes	No	No
Heier, BPS	6.1	Sandy Loam	Mow	3	Micro	None	None	No	No	No
Heier, Non-BPS	6.1	Sandy Loam	Mow	3	Micro	None	None	No	No	No
Thiara	6.5	Loam	Disk	0	Flood	Diazinon	Diazinon	Yes	No	No



Colusa wildlife habitat seminar next week

The Biological Prune Systems project will present a Wildlife Habitat Workshop on Feb. 5, at the Colusa Farm Show.

The workshop on soil biology and wildlife habitat will be held at the Stagehands Theater, next to the Main Exhibit Hall. The program will run from 9 a.m. to noon, with registration and coffee at 8:30 a.m.

During the program's first hour, Vic Claassen, a University of California soils and revegetation specialist, will discuss field applications of mycorrhizal fungi to enhance nutrient and water uptake to crops, newly planted trees, and vine-

yards. Fred Thomas of CERUS Consulting will also explain the soil biology baselines taken at the BPS growers fields, and the implications to prune production and potassium uptake.

The program also includes presentations on findings and real life experiences of researchers, farmers, and consultants on managing wildlife.

The use of barn owls boxes has been popular with farmers for the past five years to help control rodents, and Bruce Norton of Sunsweet Growers, Inc. will talk about the program started by Sunsweet to recycle scrap fruit bins into

houses for these useful predators.

The owl boxes are created by the Madera High School ROP program and marketed to any one through 'Nature Condos' of Madera. Norton will have the latest data of the positive effects on the control of gophers and voles by barn owls.

Anne King of the Point Reyes Bird Observatory will explain how to bring birds to your ranch. King has spent the past five years taking point count and mist net surveys of migratory birds in north state orchards and fields along the Sacramento River.

She will present this information, as well as data from other areas on the positive affects of habitat plantings, cover crops and softer agrichemical methods on the reintroduction of song birds.

For many ranchers large vertebrate pests such as deer are a nuisance, especially to alfalfa fields and to young orchard replants along the rivers. Wildlife consultant Chuck Harrison of Western Wildlife Services will offer many suggestions for controlling deer and other pests, as well as how to bring dove, quail, turkey, pheasants, ducks and song birds to your farm.

Attendance is free. For more information on the workshop, contact Fred Thomas of CERUS Consulting at (530) 891-6958, or FAX (530) 891-5248.

Workshop set for Farm Show

Do you want more wildlife on your ranch or are deer a problem in your fields? Want to get rid of gophers or bring more song birds to your orchard? These and many more questions will be answered at the Wildlife Habitat Workshop, scheduled for Thursday, Feb. 5 at the Colusa Farm Show.

"Soil Biology and Wildlife Habitat," a workshop of the Biological Prune Systems (BPS) project, is for North State ranchers and farmers who want to learn more about the critters below the soil and those that move through their orchards and fields. The location of the workshop will be the Stagehand Theatre, next to the Main Exhibit Hall. The program will be from 9 a.m. to noon, with registration and coffee at 8:30 a.m.

The first hour of the program on soil biology explores the use of field applications of mycorrhizal fungi to enhance nutrient and water uptake to crops, newly planted rees, and vineyards by Dr. Vic Claassen, University of California Soils and Revegetation Specialist. Also in this session, Fred Thomas of CERUS Consulting will explain the soil biology baselines ta-

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Biological
PRUNE
Systems

Wildlife and Soil Biology Workshop

*Sponsored by the Biological Prune Systems Project,
The California Prune Board,
Department of Pesticide Regulation,
Natural Resources Conservation Service, and
The Nature Conservancy*

February 5, 1998

**Colusa Farm and Equipment Show
Stagehands Theater**

8:30 - 9:00	Registration and Coffee
9:00 - 10:00	Soil Biology Biological Prune Systems Soil Biology Baselines Fred Thomas, CERUS Consulting Field Applications of Mycorrhizae Vic Claassen, Soils and Revegetation Specialist, UC Davis
10:00 - 10:10	Break
10:10 - 12:00	Wildlife Habitat Using Barn Owls for Rodent Control Bruce Norton, Sunsweet Growers, Inc. Bringing Birds To Your Ranch Anne King, Staff Biologist, Point Reyes Bird Observatory Improving and Using Wildlife on Your Farm Chuck Harrison, Western Wildlife Services Bring Farm Edges Back to Life John Anderson, Hedgerow Farms 1 Hour PCA Credits 3 Hours CCA Credits

Habitat

From Page A-12

ken at the BPS grower's fields and the implications to prune production and potassium uptake.

The second two hours of the program presents research and real life experiences of researchers, farmers and consultants on managing wildlife. The use of barn owl boxes has been popular with farmers for the past five years to help control rodents, and Bruce Norton of Sunsweet Growers, Inc., will talk about the program started by Sunsweet to recycle scrap bins into houses for these useful predators. The owl box houses are created by the Merced High School ROP Program and marketed to anyone through "Nature Condos" of Madera. Norton will show the latest data of the positive effects on the control of gophers and moles by barn owls.

Continuing with the introduction of birds to the farmscape, Anne King of the Point Reyes Bird Observatory will explain how to "Bring Birds to Your Ranch." King has spent the past five years

taking point county and mist surveys of migratory birds North State orchards and fields along the Sacramento River. King will present this information well as data from other areas the positive effects of habitat plantings, cover crops and set agricultural methods on the introduction of song birds.

For many ranchers, large vertebrate pests such as deer are a nuisance, especially to alfalfa fields and to young orchard replanting along the rivers. Noted wildlife consultant, Chuck Harrison, Western Wildlife Services, will offer many suggestions on how to control deer and other pests as well as how to bring dove, quail, turkey, pheasants, ducks and song birds to your farm and surrounding area. Also speaking on how to bring wildlife to the farm will John Anderson of Hedgerow Farms. Long an innovator in planting of borders, roadside farm ponds and drainage ditches

The free program is sponsored by the California Prune Board, Department of Pesticide Regulation, The Nature Conservancy and the National Resources Conservation Service.

Workshop to be held on habitat problems

Do you want more wildlife on your ranch or are deer a problem in your fields? Want to get rid of gophers or bring more song birds to your orchard? These and many more questions will be answered at the Wildlife Habitat Workshop Thursday, Feb. 5, at the Colusa Farm Show.

"Soil Biology and Wildlife Habitat," a workshop of the Biological Prune Systems project, is for north state ranches and farmers who want to learn more about the critters below the soil and those that move through their orchards and fields.

The workshop will be at the Stagehands Theater next to the main Exhibit Hall. The program will be from 9 a.m. to noon with registration and coffee at 8:30 a.m.

The first hour of the program on soil biology explores the use of field applications of mycorrhizal fungi to enhance nutrient and water uptake to crops, newly planted trees and vineyards by Dr. Vie Claassen, University of California Soils Specialist.

Fred Thomas of CERUS Consulting will explain the soil biology baselines taken at the BPS growers' fields and the implications to prune production and potassium uptake.

The second two hours of the program present research and real-life experiences of researchers, farmers and consultants on managing wildlife.

The use of barn owl boxes has been popular with farmers for the past five years to help control rodents, and Bruce Norton of Sunsweet Growers, Inc., will talk about the program started by Sunsweet to recycle scrap bins into houses for these useful predators.

The owl box houses are created by the Merced High School ROP program and marketed to any one through "Nature Condo" of Madera.

Anne King of the Point Reyes Bird Observatory will explain how to "Bring Birds to Your Ranch." King has spend the past five years taking point count and mist net surveys of migratory birds in the north state orchards and fields along the Sacramento River. She will present this information as well as dates from other areas on the positive affects of habitat plantings, cover crops and softer agricultural methods on the reintroduction of song birds.

The free program is sponsored by the California Prune Board, Department of Pesticide Regulation, The Nature Conservancy and the Natural Resources Conservation Service. Pest Control Advisors and Pest Control Operators will receive PCA and CCA credits for training in vertebrate pest control methods.

Information is available from Fred Thomas at (530) 891-6958 or FAX at 891-5248.